

## CLAIMS:

1. A method of generating a maximum entropy speech model for a speech recognition system in which:

- by evaluating a training corpus, first probability values  $p_{ind}(w | h)$  are formed for N-grams with  $N \geq 0$ ;
- 5 - an estimate of second probability values  $p_\lambda(w | h)$ , which represent speech model values of the maximum entropy speech model, is made in dependence on the first probability values;
- boundary values  $m_\alpha$  are determined which correspond to the equation

$$m_\alpha = \sum_{(h,w)} p_{ind}(w|h) \cdot N(h) \cdot f_\alpha(h,w)$$

10 where  $N(h)$  is the rate of occurrence of the respective history  $h$  in the training corpus and  $f_\alpha(h, w)$  is a filter function which has a value different from zero for specific N-grams predefined a priori and featured by the index  $\alpha$ , and otherwise has the zero value;

- an iteration of speech model values of the maximum entropy speech model is continued to be made until values  $m_\alpha^{(n)}$  determined in the  $n^{\text{th}}$  iteration step according to the formula

$$m_\alpha^{(n)} = \sum_{(h,w)} p_\lambda^{(n)}(w|h) \cdot N(h) \cdot f_\alpha(h,w)$$

15 20 sufficiently accurately approach the boundary values  $m_\alpha$  according to a predefinable convergence criterion.

25 2. A method as claimed in claim 1, characterized in that for the iteration of the speech model values of the maximum entropy speech model, the GIS algorithm is used.

3. A method as claimed in claim 1 or 2, characterized in that a backing-off speech model is provided for producing the first probability values.
4. A method as claimed in claim 1, characterized in that for calculating the boundary values  $m_\alpha$  for various sub-groups, which summarize groups of a specific  $\alpha$ , various first probability values  $p_{ind}(w | h)$  are used.
5. A speech recognition system with a speech model generated as claimed in one of the claims 1 to 4.